

In re Application of: Tamar HAREL et al
 Serial No.: 10/804,560
 Filed: March 18, 2004
 Office Action Mailing Date: March 27, 2008

Examiner: Michael William Kahelin
 Group Art Unit: 3762
 Attorney Docket: 34487

In the Claims:

1 – 51. (Cancelled)

52. (Currently amended) Apparatus for blood glucose control, comprising:

at least one implantable electrode ~~adapted to apply an electric field to a pancreas; and~~

~~circuitry, which adapted to electrifiesy~~ said at least one electrode for a short duration every period of time, such that the resulting application frequency is between 1 and 15 times per second~~and configured to electrify said electrode in a manner which significantly reduces elevated blood glucose levels, said circuitry configured to apply said field also when glucose levels are not elevated.~~

53. (Original) Apparatus according to claim 52, wherein said circuitry is a closed loop system including sensing of the effect of the electrification and wherein said circuitry is configured to over stimulate in cases of doubt.

54. (Original) Apparatus according to claim 52, wherein said circuitry is a semi-open loop system where a relatively long stimulation series is applied without feedback.

55. (Original) Apparatus according to claim 52, wherein said circuitry is an open loop system where a stimulation series is applied responsive to a trigger and without feedback.

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56 – 78. (Cancelled)

79. (Previously presented) Apparatus according to claim 52, wherein said circuitry is configured to electrify said electrode in a manner which generates an electric field that reduces glucose levels in a non-insulin manner.

80. (Previously presented) Apparatus according to claim 52, wherein said circuitry is configured to electrify said electrode in a manner which generates an electric field that reduces glucagon secretion.

81. (Previously presented) Apparatus according to claim 52, wherein said circuitry configured to electrify said electrode in a manner which generates an electric field that reduces or prevents a substantial increase in insulin secretion.

82. (Currently amended) Apparatus according to claim 52, wherein said apparatus is programmed with a knowledge of a slow acting chemical-based insulin therapy provided to ~~said a~~ pancreas.

83. (Previously Presented) Apparatus according to claim 52, comprising an automatic glucose sensor for automatically detecting a situation requiring an acute response.

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84. (Previously Presented) Apparatus according to claim 52, comprising an automatic glucose sensor for automatically detecting a situation requiring an acute insulin response.

85. (Previously presented) Apparatus according to claim 52, wherein said field acts as an acute insulin response in reducing glucose levels.

86. (Cancelled)

87. (Previously Presented) Apparatus according to claim 52, wherein said electrode is adapted for attachment to a muscular organ.

88 – 100. (Cancelled)

101. (Previously presented) An apparatus according to claim 52, wherein said field reduces elevated blood glucose levels by at least 20% of an elevation of the glucose level above a fasting baseline glucose level.

102. (Previously presented) Apparatus according to claim 52, wherein said circuitry configured to electrify said electrode in a manner which generates an electric field that reduces blood insulin levels, as measured by an accumulated amount for a glucose ingestion event and in comparison to a regular response of said person, by more than 20%.

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103. (New) Apparatus according to claim 52, wherein said circuitry electrifies said at least one electrode for a given period of time 5 times per second.

104. (New) Apparatus according to claim 52, wherein said given period is shorter than 30ms.

105. (New) Apparatus according to claim 52, wherein said electric field is non-excitatory in that it does not substantially induce new bursts of islet activity in a pancreas.

106. (New) Apparatus according to claim 52, comprising an implantable electrode adapted for attachment to a stomach.

107. (New) Apparatus according to claim 52, wherein said circuitry electrifies said at least one electrode in synchrony with the electrical activity of the stomach.

108. (New) Apparatus according to claim 52, wherein said circuitry provides an electric field that significantly reduces high blood glucose levels, and does not substantially reduce normal blood glucose levels.